



2011 "VOLUNTEERS WORKING WITH INVASIVES" GRANTS REPORT FORM

Display Report

PROJECT BACKGROUND INFORMATION

Project Title:	Laysan Island Restoration	
Region: Use region number ONLY	1	
Station:	Papahanaumokuakea Marine National Monument	
Contact Person: Name and Phone Number	Cindy Rehkemper 808-792-9487	
Project Description: (Up to 250 words)	This project supports restoration activities at Laysan Island. Staff and volunteers continue efforts to eradicate alien invasive species such as Indian dropseed (<i>Sporobolus pyramidatus</i>), Bermuda grass (<i>Cynodon dactylon</i>), and Indian fleabane (<i>Pluchea indica</i>) by removing the plants and conducting post-monitoring and treatment of the sites to prevent reestablishment. Another component of the project is native plant propagation and outplanting in areas free of alien invasive species. In addition to the habitat restoration, crew members conduct regular monitoring on the vertebrate species for population health and invertebrate species for new invasive species.	
List of Invasives Species Targeted:	Common Name	Scientific Name
	Indian Dropseed	<i>Sporobolus pyramidatus</i>
	Indian Fleabane	<i>Pluchea indica</i>
	Bermuda Grass	<i>Cynodon dactylon</i>
	Common Sandbur	<i>Cenchrus echinatus</i>
	Swinecress	<i>Coronopus didymus</i>
	Tobacco	<i>Nicotonia tobaccum</i>
Project Status:	InProgress	
Project Completion Date or Estimated Completion Date: (mm/dd/yyyy)	12/31/2023	

VOLUNTEER INFORMATION

Volunteer Affiliation:	
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(Check all that apply)

VA_Other

Volunteer Involvement: Describe the type of work the volunteers performed. (Up to 150 words)	This year we treat approximately 695.2 acres Indian dropseed and 120 acres Bermuda grass. We increased the number of Indian Fleabane targeted from 9.35 acres in 2010 to 21183.4 acres in 2011. Nature helped our efforts of Indian Fleabane control in 2011. In Feb 2011 an unusually strong storm dumped 10 inches of rain on Laysan Island in 8 hours. This rainfall event emptied into the hypersaline lake at Laysan creating flooding beyond the normal boundaries of the lake with hypersaline water. The subsidence of water took over 2 months to regain normal lake boundaries. During that inundation older stands of Indian Fleabane bushes (height > 5' high) were killed in place. Our methods subsequent to the dry out of these areas has been to cut paths into the dead stands of Indian Fleabane to control emerging growth leaving much of the stand dead undisturbed providing structure in place for perching birds to nest. The flip side to the inundation was that endemic outplants in that area were killed as well. For outplants with recruitment, the seed bank remained intact and new growth is emerging. Only 1 outplanted species was substantially impacted by the hypersaline inundation which was Pritchardia remota. This palm had been propagated at Laysan for 8 years and was approximately 4 months from producing ripe seeds for the first time on Laysan. All of those older plants approximately 10 individuals were lost. As a part of our long term monitoring and control projects of the Common Sandbur (<i>Cenchrus echinatus</i>) and Swinecress (<i>Coronopus didymus</i>) continue to be monitored for new plants. Sandbur diameters are repetitively surveyed every 45 days for a total of 6.1 acres in 2011. Annually Sandbur surveillance is conducted as an island wide survey for a total of 504.1 acres surveyed and no new plants found. Swinecress was an early detection rapid/response methodology that has remained minimal effort of 69.5 acres for 2011. We conducted 2 Ant surveys to assess current species on the island and monitor for new introductions. Lastly, we opportunistically monitored and removed Tobacco (<i>Nicotiana tabacum</i>) and Hairy horseweed (<i>Conyza bonariensis</i>); these are low priority invasive species that will be targeted once other species are controlled.
Total Number of Volunteers:	4
Total Number of Volunteer Hours:	644.17
Partnerships: List both new and existing partnerships utilized in this project. (Up to 150 words).	It cannot be overstated that our work would not be possible without the efforts of dedicated volunteers and the assistance of partner conservation organizations. In 2009 the number of full time volunteers utilized by FWS in Papahanaumokuakea for conservation exceeded the number of paid personnel on staff. The FWS Ecological Services continues to provide assistance with threatened and endangered species, specifically risk assessment and mitigation of human activities. The Hawaii State Department of Land and Natural Resources is involved in consultation for invasive species removal and native plant propagation. The USDA is involved in consulting on invasive species management, identification and native plant propagation. The University of Hawaii, Lyon Arboretum contributes to education and maintenance of ex-situ seed storage facilities. National Marine Fisheries aids Laysan in monitoring the endangered Hawaiian Monk Seal population. The National Center for Genetic Resource Preservation is providing long term seed storage for the endangered plants found in Papahanaumokuakea.

PROJECT RESULTS

Project Results: Give an overview of the results of the project. Include quantifiable measure of success, such as maps produced, efficacy of control measures, number of sites where invasions were detected early and responded to, number of community contacts, etc. (Up to 250 words).	The <i>Cenchrus echinatus</i> removal, started in 1991, has been a major success, and no new plants were found in 2011. A total of 440.56 person hours (220.28 volunteer hours) have been spent in removal of <i>Sporobolus pyramidatus</i> and <i>Cynodon dactylon</i> controlling a total of 815.2 acres of treated area. All known <i>Cynodon</i> areas are in an active control regime on Laysan now. There is an estimated 10 acres of uncontrolled <i>Sporobolus</i> . Six acres of previously treated <i>Sporobolus</i> was suspended and an additional 3 acres was not started in 2011. This adaptive management provided time and manpower to take advantage of the storm in Feb 2011 and propel efforts of <i>Pluchea indica</i> control from 6861 acres in 86 person hours in 2010 to 21183.4 acres in
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	402.33 person hours in 2011. This Pluchea effort has consolidated methods and should save time overall. Now that woody stemmed shrubs of Pluchea are all controlled, emerging Pluchea can be controlled with the same method and chemical (Aquamaster/Glyphosate) as is used for Cynodon and Sporobolus there by coupling 3 species into 1 application per unit area. April 29 2010 marked 1 year free of Coronopus and no seeded plants have been found since.
Number of Acres Treated:	22578.3
Number of Acres Inventoried and/or Mapped:	2.55
Number of Acres Restored:	0

BUDGET INFORMATION

Budget: Account for funds in broad categories such as equipment, volunteer stipends, travel, coordinator salary/contract, etc.

Total Grant Amount:	\$ \$20,000
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Breakdown of Expenditures:

Category	Total \$ Spent	% of Total Grant
Equipment / Supplies	5571.55	28%
Chemical		
Biocontrol Agents		
Travel	2710.00	13%
Volunteer Stipends		
Volunteer Coordinator Salary/Contract	11718.45	59%
Restoration Materials		
Other		
TOTAL	20000	

Recommendations: (OPTIONAL) How useful was this program for meeting refuge invasive species objectives and how can it be improved?	We have been fortunate to compete successfully for this grant for 2 years now. Honestly if we do not compete successfully in 2012 for this grant again we may have to close the camp at Laysan Island. In 2011 we were hit with a large storm and a tsunami. These two events have set us back destroying structures, equipment and supplies. Additionally these 2 events had both positive and negative effects to both invasive species removal and endemic plant propagation at Laysan. If you know of other grant opportunities working with invasive species please send that information along to us. We need to be successful in 2012 in bring in extra funding to stay open.
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